



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,327	08/19/2003	Jean Khawand	CE11193JI210	4001

22917 7590 03/10/2006

MOTOROLA, INC.
1303 EAST ALGONQUIN ROAD
IL01/3RD
SCHAUMBURG, IL. 60196

EXAMINER

SORRELL, ERON J

ART UNIT	PAPER NUMBER
----------	--------------

2182

DATE MAILED: 03/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/643,327	Applicant(s) KHAWAND ET AL.	
	Examiner Eron J. Sorrell	Art Unit 2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2182

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 7-9, 11, 15, 18, and 19 rejected under 35 U.S.C. 103(a) as being unpatentable over Johanson et al. (U.S. Patent No. 6,912,716 hereinafter "Johanson") in view of West et al. (US Pub. No. 2002/0016899 hereinafter "West").

3. Referring to apparatus claim 1 and method claim 11, Johanson teaches an electronic device, comprising:

a first processor (item 500, figure 4);
a second processor coupled to the first processor (item 502, figure 4);
shared memory coupled to the first and second processors;
and

wherein the first processor manages the shared memory and allocates a message buffer to the second processor based on a

Art Unit: 2182

specific request from the second processor to send a message to the first processor (see lines 31-43 of column 5).

Johanson fails to teach the first processor sends a message buffer pointer to the second processor that directs the second processor to the message buffer.

West teaches, in an analogous apparatus, the above limitation (see paragraph 10 on page 1).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the apparatus of Johanson with the above teachings of West. One of ordinary skill in the art would have been motivated to make such modification in order to access a maximum amount of memory through a system address space while using limited system resources as suggested by West (see paragraph 8 on page 1).

4. Referring to claim 2, Johanson teaches the first processor responds to a reception of an empty buffer request from the second processor (see lines 31-43 of column 5), and West teaches sending the message buffer pointer to the second processor (see paragraph 10 on page 1).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the

apparatus of Johanson with the above teachings of West for the same reasons as mentioned in the rejection of claim 1, *supra*.

5. Referring to claim 3, Johanson after receiving the message buffer pointer the second processor fills the message buffer with the message. (see lines 51-57 of column 5).

6. Referring to claim 7, Johanson teaches a plurality of buffers assigned to the second processor are located in the shared memory. (see item 44 in figure 1A).

7. Referring to claim 8, Johanson teaches the plurality of buffers assigned to the second processor are used by the second processor without having to request them from the first processor. (see lines 18-27 of column 4).

8. Referring to claim 9, Johanson teaches that when the second processor needs to send a message to the first processor it loads a starting address of the message in one of the plurality of buffers assigned to the second processor (see lines 18-27 of column 4).

Art Unit: 2182

9. Referring to claim 15, Johanson teaches a method for providing inter-processor communication between first and second processors using a shared memory (see paragraphs bridging columns 2 and 3), the first processor assigned to manage the shared memory, the method comprising the steps of: at the first processor:

(a) dynamically allocating a memory buffer from the shared memory for use in loading a message to be sent to the second processor in response to a specific request from the second processor (see lines 51-63 of column 5);

(b) loading the message in the memory buffer (see lines 51-63 of column 5).

Johanson fails to teach the limitations of sending a message buffer pointer to the second processor and at the second processor and using the message buffer pointer to locate the message in the shared memory.

West teaches, in an analogous apparatus, the above limitations (see paragraph 10 on page 1).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the apparatus of Johanson with the above teachings of West. One of ordinary skill in the art would have been motivated to make such modification in order to access a maximum amount of memory

Art Unit: 2182

through a system address space while using limited system resources as suggested by West (see paragraph 8 on page 1).

10. Referring to claim 18, Johanson teaches the first processor sending the starting address of the allocated memory buffer to a memory located in the second processor (see lines 18-36 of column 6).

11. Referring to claim 19, Johanson teaches the first processor sends an interrupt to the second processor once it has loaded the starting address of the allocated memory buffer in the memory located in the second processor (see lines 18-36 of column 6).

12. Claims 4-6, 12-14, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johanson in view of West as applied to claims 1, 11, and 15 above, and further in view of McKenney et al. (U.S. Patent No. 6,823,511 hereinafter "McKenney").

13. Referring to method claims 4-6 and apparatus claims 12-14, and apparatus claims 16 and 17, the combination of Johanson and West teaches the first processor reads the message from the

Art Unit: 2182

shared memory after it has been written by the second processor and the first processor releasing the message buffer after the message has been read (see Johanson, see lines 38-48 of column 4) .

The combination of Johanson and West fails to teach the second processor passes the message buffer pointer to the first processor and the first processor reading the message from the buffer in response to receiving the message buffer pointer.

McKenney teaches, in an analogous system, returning a pointer from a second processor to a first processor that previously sent the pointer to the second processor for reading a message from the second processor to the first processor (see lines 40-45 of column 11) .

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the combination of Johanson and West with the above teachings of McKenzie in order to provide proper synchronization between the processors by only allowing one processor at a time to access the shared memory (see lines 6-15 of column 2) .

14. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johanson in view of West as applied to claim 1

Art Unit: 2182

above, and further in view of Ellsworth et al. (U.S. Patent No. 6,131,113 hereinafter "Ellsworth").

15. Referring to claim 10, the combination of Johanson and West fails to teach the device is a radio device, however Johanson does suggest the device is used in telecommunication applications (see lines 62-67 of column 6).

Ellsworth teaches in an analogous system having first and second processor and a shared memory for use in telecommunications applications wherein the device is a radio device (see lines 25-33 of column 9).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention utilize the combination of Johanson and West within the device of Ellsworth to effectively utilize the mailbox space of disclosed by Ellsworth.

Response to Arguments

16. Applicant's arguments with respect to claims 1 and 15 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eron J. Sorrell whose telephone number is 571 272-4160. The examiner can normally be reached on Monday-Friday 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Huynh can be reached on 571-272-4147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EJS
March 3, 2006


KIM HUYNH
SUPERVISORY PATENT EXAMINER

3/3/06